

Workshop on Policy Options to Improve Residential Lighting Efficiency
Integrated Energy Policy Report Committee
June 19, 2007

Attachment A: Committee Questions

1. What types of lamps/technologies are generally used for residential lighting in California, and why? Of these products, what percentage of residential lighting is general service incandescent, directional incandescent lamps, miscellaneous incandescent lamps, compact fluorescents, and linear fluorescents?
2. How does this compare to lighting practices in other states and other parts of the world? For example, Japanese residential lighting is almost entirely provided by linear fluorescent lamps, and less than 50% of the residential lighting in Europe is provided by incandescent lighting.
3. How much energy is consumed by residential lighting in California? When is this energy generally consumed during the day and year? How much annual energy savings and peak demand reduction could California achieve with full or substantial elimination of incandescent lighting?
4. How has lighting technology (i.e., compact fluorescent) for residential use and the market availability of these technologies changed over time? How will these change in the future? How are the fixture requirements in the California Title 24 building standards affecting the status of residential lighting in new construction in California?
5. What lighting applications can currently be provided effectively by non-incandescent, high efficiency light sources? Which applications still require incandescent lighting, and why? What more-efficient alternative light sources may be available for these applications in the future and when? For example, what impact will new high-efficacy Light Emitting Diode lighting technology have on the residential lighting market, and by when?
6. Can the efficiency of incandescent light sources be dramatically improved? By how much, and how would this happen?
7. What barriers are slowing or preventing adoption of more efficient sources, such as compact fluorescent lamps? What barriers must be overcome to make these more efficient sources more sought after in the marketplace?
8. What consumer acceptance issues remain, if any, for high efficiency lighting technologies regarding their cost, lamp lifetime, appearance, color quality and rendering, mercury content, amount of time to full light output, or other qualities?
9. What policies are other jurisdictions and countries considering or pursuing to improve the efficiency of lighting? At what stage are their efforts? What goals or deadlines do their policies include?
10. What collaborative efforts could California take with other states or countries to increase the total lighting efficiency to be no less than that of compact fluorescents without adverse environmental impacts or reduction in lighting quality?
11. What could or should be done with labeling on general service lighting retail packaging or store displays to facilitate consumer consideration of lighting efficacy?

12. Which policy options to substantially increase residential lighting efficacy bear near-term consideration in California? What are the advantages and disadvantages of each of those options? Are there other options not listed? What is the proper mix of these strategies for California?
- Banning of specific low efficiency technologies, such as incandescent lamps.
 - Establishing appliance efficiency standards on a lumens per watt, or alternative, basis that all general service lamps must meet.
 - Establishing corporate average lighting standards on a lumens per watt, or alternative, basis that all manufacturers or retailers of general service lamps must meet averaged over the lamps sold per year.
 - Establishing quality control and certification programs to require that any general service lamps manufactured and sold meet standards related to lifetime, color rendering, mercury content, other toxics content, or other qualities.
 - Establishing labeling requirements that require clear labeling of lumens, efficacy, quality certifications, or other terms in consumer packaging for sale of general service incandescents.
 - Implementing programs that provide monetary incentives to the manufacturer, retailer, or consumer of highly efficient general service lighting products.
 - Implementing educational and outreach programs that address the barriers to consumer purchase and use of highly efficient general service lighting products.
13. What changes to the volume and content of trash/waste streams is likely to occur by changing from current incandescent technologies to more efficiency options such as compact or linear fluorescents? For example, to what extent does the mercury from fluorescent lamps represent a significant environmental impact? Would reducing use of incandescent lamps reduce use of other heavy metals, such as lead?
14. What other environmental impacts may result from full or substantial elimination of general service incandescent lamps and the use instead of alternative light sources?
15. How can state policy be used to mitigate environmental impacts of the changes in light sources?